

REMARKS

Status

This Amendment is responsive to the Office Action dated March 2, 2007, in which Claims 1-16 were rejected. Claims 2 and 10 have been canceled; Claims 1 and 3 have been amended; and no new claims have been added. Accordingly, Claims 1, 3-9 and 11-16 are pending in the application, and are presented for reconsideration and allowance.

Claim Rejection - 35 USC 112

Claims 2, 3, 10, and 11 stand rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 10 have been canceled. Claims 3 and 11 are now dependent on amended Claim 1, and as such, are believed to overcome the rejection. Withdrawal of the rejection is respectfully requested.

Claim Rejection - 35 USC 102

Claims 1-3, 5-11, and 13-16 stand rejected under 35 USC 102 as being anticipated by US Patent No. 7,106,981 (*Wyman*). While Claims 2 and 10 have been canceled, this rejection is respectfully traversed with regard to Claims 1, 3, 5-9, 11, and 13-16.

The present invention relates to axial rotation correction of in vivo images.

As described in the Specification on Pages 1-2, swallowed capsule-type medical devices have been employed for conducting examination, therapy, or treatment. The device travels through the inside of the cavities/lumens of humans or animals. Signals, including images captured by the device, can be transmitted and recorded, and compared with other stored images. However, when the capsule device moves through the cavities/lumens, there inevitably exists an axial rotation of the device around its own axis. This axial rotation causes inconsistent orientation of the captured images, which can cause diagnosis difficulties. Accordingly, the present invention addresses the need for axial rotation correction of in vivo images.

To address this need for axial rotation correction, Applicant's claimed method includes a step of determining an accumulated rotation angle between images in the same set. This is clearly claimed in amended Claim 1 as:

“using orientation corrected images to determine an accumulated rotation angle between other selected in vivo images and the reference image;”

wherein the reference image and other selected images are selected from the same plurality of images. The accumulated rotation angle is shown in Figure 5 and described in the Specification starting at Page 13, line 9.

Wyman is not addressing Applicant's need for axial rotation correction of in vivo images. Rather, *Wyman* is directed to determining convergence when registering sets of images. As noted in the BACKGROUND OF INVENTION, *Wyman* indicates that information is often acquired from multiple imaging modalities (e.g., x-ray, CR, MRI, CT, US), where an image set is a collection of related images, usually of the same modality. As stated by *Wyman* at Col 1, line 66 through Col 2, line 4, an initial step in the integration of data of the image sets is to bring the modalities involved into spatial alignment, i.e., registration (as noted by the patent's title, "... DETERMINING CONVERGENCE OF IMAGE SET REGISTRATION"). Registering one image set to correspond with another image set results in two image sets that are aligned to allow a physician to view both image sets simultaneously (see *Wyman*, Col 7, lines 38-42).

There may be a rotation angle between *Wyman*'s two image sets, but there is no rotation angle between the images in the same set. For example, referring to *Wyman*'s Figure 5, *Wyman* describes “a transformation that results in a rotation of the image set about the y-axis 504” (emphasis added) – there is no rotation angle between images in the same set.

Accordingly, *Wyman* does not teach or describe the feature claimed in Claim 1 of determining an accumulated rotation angle from images selected from the same plurality of images. As such, the present invention as claimed in Claim 1 is not anticipated by *Wyman*, and Claim 1 is believed to be patentable.

Claims 3, 5-9, 11, and 13-16 are dependent on Claim 1, and therefore include all the features thereof. For the reasons set forth above with regard to Claim 1, Claims 3, 5-9, 11, and 13-16 are also believed to be patentable.

Claim Rejection - 35 USC 103

Claims 4 and 12 stand rejected under 35 USC 103 as being unpatentable over US Patent No. 7,106,981 (*Wyman*) in view of US Patent Publication No. 2003/0229268 (*Uchiyama*). This rejection is respectfully traversed.


Claims 4 and 12 are dependent on Claim 1, and therefore include all the features thereof. For the reasons set forth above with regard to Claim 1, Claims 4 and 12 are also believed to be patentable.

Summary

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

For the reasons set forth above, it is believed that the application is in condition for allowance. Accordingly, reconsideration and favorable action are respectfully solicited.

Respectfully submitted,


Attorney for Applicants
Registration No. 39,324

Susan L. Parulski:law
Carestream Health, Inc.
Rochester, NY 14608
Telephone: (585) 724-9401
Facsimile: (585) 724-9400